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Ampl.

30. (Amended) A method according to claim 10, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, a computer, and a projector.

REMARKS

Applicants will address each of the Examiner's objections and rejections in the order in which they appear in the Final Rejection.

Specification

The Examiner objects to informalities in the specification. In particular, the Examiner objects to the spelling of the term "levelling" in the specification. Applicants are amending the specification herewith to correct the spelling of this term to -- leveling -- and to correct a few other minor informalities in the specification. Applicants are submitting herewith a marked-up copy of the specification to show each of the amendments and a substitute specification wherein each of the amendments to the specification and abstract (but not the claims, see amendments herein) have been made. It is respectfully submitted that this overcomes the Examiner's objection.

The Examiner also to the title. Accordingly, Applicants propose to amend the title to recite "Method Of Fabricating Display Device With Even Surface". It is respectfully submitted that this overcomes the Examiner's objection to the title.

The Examiner also objects to informalities in Claims 11, 13, 15, 17, 19, 21, 23, 25, 27 and 29. Applicants have amended each of these claims in accordance with the Examiner's suggestion.

Accordingly, Applicants respectfully submit that each of the Examiner's objections to the specification have now been overcome.

Drawings

In the Final Rejection, the Examiner objects to the corrected drawings filed August 7, 2002.

Applicants do not understand the Examiner's comment that there are two extra pages for figures 2 and 3. Applicants included a marked-up page of each figure showing the changes to these figures and the corrected page (with the changes, which fit on the same page as Fig. 1), as is required in the rules.

With regard to the misspelling of the word "levelling" in Figures 5 and 6, Applicants are having their draftsman correct these figures so that they now state -- leveling --, as requested by the Examiner. A proposed drawing correction is included herewith.

The Examiner also states that Figure 7 should be designated "Prior Art." Applicants disagree and traverse this requirement. As stated at page 8, lns. 11-12, "Figs. 7A to 7G are diagrams showing a fabrication process of a pixel portion according to Embodiment 1 of the present invention." Page 9, lns. 4-5 state that "Embodiment 1 of the present invention will be described with reference to Figs. 7A to 9C." Hence, Applicants respectfully submit that what is shown in Fig. 7 is part of Embodiment 1 of the present invention, and it would not be proper to label it as prior art. Accordingly, it is requested that this objection be withdrawn.

For the above-reasons, Applicants request that the objections to the drawings now be withdrawn.

Claim Rejections - 35 USC §112

The Examiner rejects Claim 10 under 35 USC §112, second paragraph, as being indefinite. In particular, the Examiner objects to the limitation of "the second levelling film" in line 9 of Claim

10 and suggests an amendment to the claim. Applicants have amended the claim in accordance with the Examiner's suggestion and request that this rejection be withdrawn.

Claim Rejections - 35 USC §103

The Examiner also rejects Claims 1-30 under 35 USC §103 as being unpatentable over "applicant's admitted prior art in combination with Chen." This rejection is respectfully traversed.

Applicants have amended the claims herein to recite the feature of an organic leveling film. An organic leveling film is advantageous over an inorganic leveling film in terms of, for example, manufacturing cost. Forming an inorganic leveling film, such as for example a spin-on-glass (SOG), needs higher-priced equipment and higher running cost than with an organic leveling film, such as a polyimide or an acrylic. One reason is that a more complex spin coater is needed to dispense an inorganic leveling film. Another reason is that relatively high temperature annealing is necessary to form an inorganic leveling film, as compared to an organic leveling film.

More specifically, in the Embodiments in the specification, an acrylic resin, which is an organic film, is used as the leveling film. At pages 16-17 of the specification, it states that the organic leveling film is cured for leveling the surface at 250°C. In contrast, Chen discloses using spin-on-glass and discusses curing the glass at a temperature of between 400°C to 450°C, preferably 425°C. Col. 6, Ins. 48-51.

Further, Applicants respectfully submit that Chen does not disclose or suggest using an organic leveling film.

Accordingly, for at least the above-stated reasons, the method of the amended claims of the present application are patentable and should now be allowed.

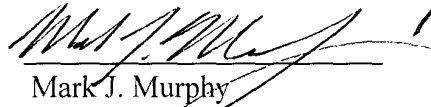
Conclusion

It is respectfully submitted that the present application is now in a condition for allowance.

If any fee should be due for this amendment, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,



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Marked up copy of the amendments made herein:

IN THE TITLE:

Please amend the title as follows:

Method Of Fabricating Display Device With Even Surface

IN THE SPECIFICATION:

Please amend the specification as shown in the enclosed marked-up copy.

IN THE DRAWINGS:

Please amend the drawings as shown in the attached figures in red.

IN THE CLAIMS:

Please amend the claims as follows:

1. (Twice Amended) A method of fabricating a display device comprising the steps of:

forming a semiconductor film over a substrate;

forming a gate insulating film on the semiconductor film;

forming a gate wiring on the gate insulating film;

forming a first organic leveling film over the gate wiring;

forming a second organic leveling film on the first organic leveling film; and

forming a pixel electrode on the second organic leveling film,

wherein the thickness of the first organic leveling film is thinner than that of the second

organic leveling film.

2. (Twice Amended) A method of fabricating a display device comprising the steps of:

forming a semiconductor film over a substrate;

forming a gate insulating film on the semiconductor film;

forming a gate wiring on the gate insulating film;

forming a first organic leveling film over the gate wiring;

forming a second organic leveling film on the first organic leveling film; and

forming a pixel electrode on the second organic leveling film,

wherein the thickness of the first organic leveling film is thinner than that of the second

organic leveling film and

wherein the thickness of the first organic leveling film is 0.1 μm or more and less than 1.5 μm .

3. (Twice Amended) A method of fabricating a display device comprising the steps of:

forming a semiconductor film over a substrate;

forming a gate insulating film on the semiconductor film;

forming a gate wiring on the gate insulating film;

forming a first organic leveling film over the gate wiring;

forming a second organic leveling film on the first organic leveling film; and

forming a pixel electrode on the second organic leveling film,

wherein the thickness of the first organic leveling film is thinner than that of the second

organic leveling film, and

wherein the thickness of the second organic leveling film is from 0.1 μm to 2.9 μm inclusive.

4. (Twice Amended) A method of fabricating a display device comprising the steps of:

forming a semiconductor film over a substrate;

forming a gate insulating film on the semiconductor film;

forming a gate wiring on the gate insulating film;

forming a first organic leveling film over the gate wiring;

forming a second organic leveling film on the first organic leveling film; and

forming a pixel electrode on the second organic leveling film,

wherein the thickness of the first organic leveling film is thinner than that of the second organic leveling film, and

wherein the total thickness of the first organic leveling film and the second organic leveling film is from 0.2 μm to 3.0 μm inclusive.

5. (Twice Amended) A method of fabricating a display device comprising the steps of:

forming a semiconductor film over a substrate;

forming a gate insulating film on the semiconductor film;

forming a gate wiring on the gate insulating film;

forming a first organic leveling film over the gate wiring;

forming a second organic leveling film on the first organic leveling film; and

forming a pixel electrode on the second organic leveling film,

wherein the thickness of the first organic leveling film is thinner than that of the second

organic leveling film, and

wherein the first organic leveling film and the second organic leveling film are insulating films formed by spin coating.

6. (Twice Amended) A method of fabricating a display device comprising the steps of:

forming a semiconductor film over a substrate;

forming a gate insulating film on the semiconductor film;

forming a gate wiring on the gate insulating film;

forming a first organic leveling film over the gate wiring;

forming a second organic leveling film on the first organic leveling film; and

forming a pixel electrode on the second organic leveling film,

wherein the thickness of the first organic leveling film is thinner than that of the second organic leveling film, and

wherein each of the first organic leveling film and the second organic leveling film comprises at least one of a polyimide resin [,] and an acrylic resin[, a resin containing a siloxane structure, and an inorganic SOG material].

7. (Twice Amended) A method of fabricating a display device comprising the steps of:

forming a semiconductor film over a substrate;

forming a gate insulating film on the semiconductor film;

forming a gate wiring on the gate insulating film;

forming a first organic leveling film over the gate wiring;

forming a second organic leveling film on the first organic leveling film; and
forming a pixel electrode on the second organic leveling film,
wherein the thickness of the first organic leveling film is thinner than that of the second organic leveling film, and
wherein the first organic leveling film and the second organic leveling film comprise the same material.

8. (Amended) A method of fabricating a display device comprising the steps of:
forming a semiconductor film over a substrate;
forming a gate insulating film on the semiconductor film;
forming a gate wiring on the gate insulating film;
forming a first organic leveling film comprising resin over the gate wiring;
forming a second organic leveling film comprising resin on the first organic leveling film; and
forming a pixel electrode on the second organic leveling film,
wherein the thickness of the first organic leveling film is thinner than that of the second organic leveling film.

9. (Amended) A method of fabricating a display device comprising the steps of:
forming a semiconductor film over a substrate;
forming a gate insulating film on the semiconductor film;
forming a gate wiring [in] on the gate insulating film;
forming a insulating film comprising an inorganic material over the gate insulating film;

forming a first organic leveling film over the insulating film;
forming a second organic leveling film on the first organic leveling film; and
forming a pixel electrode on the second organic leveling film,
wherein the thickness of the first organic leveling film is thinner than that of the second organic leveling film.

10. (Amended) A method of fabricating a display device comprising the steps of:
forming a semiconductor film over a substrate;
forming a gate insulating film on the semiconductor film;
forming a gate wiring on the gate insulating film;
applying a first organic layer comprising resin by spin coating;
baking the first organic layer to form a first organic leveling film;
applying a second organic layer comprising resin by spin coating;
baking the [first] second organic layer to form a [first] second organic leveling film; and
forming a pixel electrode on the second organic leveling film,
wherein the thickness of the first organic leveling film is thinner than that of the second organic leveling film.

11. (Amended) A method according to claim 1, wherein the display device is a liquid crystal display device or an EL display device.

12. (Amended) A method according to claim 1, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

13. (Amended) A method according to claim 2, wherein the display device is a liquid crystal display device or an EL display device.

14. (Amended) A method according to claim 2, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

15. (Amended) A method according to claim 3, wherein the display device is a liquid crystal display device or an EL display device.

16. (Amended) A method according to claim 3, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

17. (Amended) A method according to claim 4, wherein the display device is a liquid crystal display device or an EL display device.

18. (Amended) A method according to claim 4, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

19. (Amended) A method according to claim 5, wherein the display device is a liquid crystal display device or an EL display device.

20. (Amended) A method according to claim 5, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

21. (Amended) A method according to claim 6, wherein the display device is a liquid crystal display device or an EL display device.

22. (Amended) A method according to claim 6, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

23. (Amended) A method according to claim 7, wherein the display device is a liquid crystal display device or an EL display device.

24. (Amended) A method according to claim 7, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

25. (Amended) A method according to claim 8, wherein the display device is a liquid crystal display device or an EL display device.

26. (Amended) A method according to claim 8, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

27. (Amended) A method according to claim 9, wherein the display device is a liquid crystal display device or an EL display device.

28. (Amended) A method according to claim 9, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.

29. (Amended) A method according to claim 10, wherein the display device is a liquid crystal display device or an EL display device.

30. (Amended) A method according to claim 10, wherein the display device is used in one selected from the group consisting of a portable phone, a video camera, [and] a computer, and a projector.